

## ABSTRACT

Compositions with synergistic anti-inflammatory effects in inflammatory diseases resulting from activation and consequent degranulation of mast cells and followed by secretion of inflammatory biomolecules from the activated mast cells, composed of a heavily sulfated, non-bovine proteoglycan such as shark cartilage chondroitin sulfate C, an unrefined olive kernel oil/extract that increases absorption of these compositions in various routes of administration, and one or more of a hexosamine sulfate such as D-glucosamine sulfate, a 10 flavone such as quercetin, S-adenosylmethionine, a histamine-1 receptor antagonist, a histamine-3 receptor agonist, an antagonist of the actions of CRH, caffeine, and a polyamine.